

WHAT IS CLAIMED IS:

- 1 1. A door lock/unlock system for a vehicle, comprising:
2 a door lock state detector detecting whether a door
3 of the vehicle is put in a lock state;
4 a door open state detector detecting whether the
5 door is open;
6 a door lock mechanism through which the door is
7 locked and unlocked; and
8 a controller connected to the door lock state
9 detector, the door open state detector and the door
10 actuator, the controller being arranged,
11 to compare a first lock/unlock state detected
12 during the door open state with a second lock/unlock
13 state detected at a moment when an open/close state
14 is changed from an open state to a closed state,
15 to maintain the state of the door lock
16 mechanism when the first lock/unlock state
17 corresponds to the second lock/unlock state, and
18 to set the state of the door lock mechanism at
19 the first lock/unlock state when the first
20 lock/unlock state does not corresponds to the second
21 lock/unlock state.
- 1 2. The door lock/unlock system as claimed in claim 1,
2 wherein the controller is further arranged to count a
3 predetermined time period from a moment that the open/close
4 state is changed from the open state to the closed state
5 and to compare the first lock/unlock state and the second
6 lock/unlock state when the counted time period is smaller
7 than the predetermined time period.

1 3. The door lock/unlock system as claimed in claim 1,
2 wherein the door lock mechanism comprises a door lock
3 actuator which is connected to the controller and through
4 which the door lock mechanism changes the lock/unlock state
5 of the door.

1 4. The door lock/unlock system as claimed in claim 1,
2 wherein the door lock state detector, the door open state
3 detector and the door lock mechanism are attached to each
4 of the doors of the vehicle.

1 5. The door lock/unlock system as claimed in claim 1,
2 wherein the controller is further arranged to
3 repeatedly store a lock/unlock state detected by the door
4 lock state detector in a memory of the controller as the
5 first lock/unlock state when the door is open.

1 6. The door lock/unlock system as claimed in claim 1,
2 further comprising an overlay switch for setting the
3 lock/unlock state with a priority to the determination
4 based on the door lock state detector.

1 7. The door lock/unlock system as claimed in claim 6,
2 wherein the overlay switch includes a concentrated door
3 lock/unlock switch through which a driver of the vehicle
4 concentratedly controls the door lock/unlock state of all
5 of the doors of the vehicle.

1 8. The door lock/unlock system as claimed in claim 1,
2 further comprising a door locking knob through which a
3 vehicle occupant in a passenger compartment of the vehicle
4 is capable of locking the door.

1 9. A method for controlling a lock/unlock state of a door
2 of a vehicle, the method comprising:
3 detecting whether the door is put in a lock state;
4 detecting whether the door is open;
5 comparing a first lock/unlock state detected during
6 the door open state with a second lock/unlock state
7 detected at a moment when an open/close state is changed
8 from an open state to a closed state;
9 maintaining the state of a door lock mechanism for
10 locking and unlocking the door when the first lock/unlock
11 state corresponds to the second lock/unlock state; and
12 setting the state of the door lock mechanism at the
13 first lock/unlock state when the first lock/unlock state
14 does not corresponds to the second lock/unlock state.

1 10. A door lock/unlock system for a vehicle, comprising:
2 lock/unlock operation means for locking and unlock a
3 door;
4 lock/unlock mechanism interconnected with the
5 lock/unlock operation means, the lock/unlock mechanism
6 locking and unlocking the door according to an operation of
7 the lock/unlock operation means;
8 door open state detecting means for detecting an
9 open/close state of the door;
10 door lock state detecting means for detecting a
11 lock/unlock state of the door; and
12 door lock/unlock controlling means for controlling an
13 operation of the lock/unlock mechanism, the door
14 lock/unlock controlling means comparing the lock/unlock
15 state detected during the door open state with the
16 lock/unlock state detected at a moment that the door open

17 state is changed from an open state to a close state,
18 maintaining the state of the door actuator when the
19 lock/unlock state during the door open state corresponds to
20 the lock/unlock state at the moment that the open/close
21 state is changed from the open state to the close state,
22 and setting the lock/unlock state of the door lock
23 mechanism at the lock/unlock state during the door open
24 state when the lock/unlock state during the door open state
25 does not correspond to the lock/unlock state at the moment
26 that the open/close state is changed from the open state to
27 the close state.